

Paola Riva CV

Dipartimento di Biotecnologie Mediche e Medicina Traslazionale – Università degli studi di Milano

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EDUCATION AND TRAINING

1984-1987 – Attends as a student at the Department of Biology and Genetics for Medical Sciences – Università degli Studi di Milano.

1987 – Degree in Biological Sciences - Università degli Studi di Milano.

1988 – Attends the 1st Course of European School of Medical Genetics, Sestri Levante (Ge)

1992 - PhD in Molecular and Cellular Biology - Università degli Studi di Milano, Roma

1992 – Attends the EMBO practical Course "Cloning into YAC vectors 2" , Napoli

1993-1994 – Post-Doctoral Fellow (Università degli Studi di Milano).

1997 - Diploma in Medical Genetics following four-year attendance to the Post Lauream School in Medical Genetics - Università degli Studi di Milano.

2002 – Attends the course UNIMPRESA – Constitution of paths for the business -Università degli Studi di Milano

EMPLOYMENT AND EXPERIENCE

April 2019 Professor of the PhD School in Molecular Genetics, Biotechnology and Experimental Medicine – Università degli Studi di Brescia

July 2015 - Full Professor in Applied Biology (BIO/13 group) - Università degli Studi di Milano

2015 -2018 - Professor of the PhD School in Experimental Medicine and Medical Biotechnology

March 2014 to date – member of the Independent Ethics Committee of Derming srl

February 2014 – National Scientific Qualification as Full Professor

October 2013 – April 2015 - Professor of the PhD School in Molecular and Cellular Biology and member of the directors' board – Università degli Studi di Milano

July 2012– January 2018 Responsible of the Biology and Genetics section of the Department of Medical Biotechnology and Translational Medicine – Università degli Studi di Milano

February 2012 to date – Director of the Laboratory “Service for study and diagnosis of genomic anomalies” located at the Department of Medical Biotechnology and Translational Medicine – Università degli Studi di Milano. The Service is certified as “SmeL” by Regione Lombardia

2012 to date - Professor of the PhD/MD School in Biomedical Research associated to the single cycle degree course of Medicine – Università degli Studi di Milano

2009 -2014 - Professor of the PhD School in Molecular and Biological Sciences and member of the directors' board – Università degli Studi di Milano

May 2008 – April 2012 – Director of the Department of Biology and Genetics for Medical Sciences
– Università degli Studi di Milano

2007 to date - Affiliation to the Stem Cells Research Center “UniStem”

2004–2007 – Professor of the International PhD program – EMBL – Heidelberg associated with the
PhD course in “Genetic and Biomolecular Sciences” - Università degli Studi di Milano

2003–2009- Professor of the PhD Course “Molecular and Cellular Biology” - Università degli Studi
di Milano”

2001 – June 2015 Associate Professor in Applied Biology (BIO/13 group) - Università degli Studi di
Milano

1999–2003 – Professor of the PhD Course “Neurology, Psychiatry and Neurogenetics” - Università
degli Studi di Milano e Università di Genova associated.

1998 to date Professor in Molecular Genetics of the Post Lauream Specialization School in
Medical Genetics - Università degli Studi di Milano

1995 – 2001 - University Researcher (E13X), Università degli Studi di Milano.

FELLOWSHIPS

1988-1992 PhD Fellow in Molecular and Cellular Biology (University of Milan)

1993–1994 Post Doctoral Fellow (University of Milan)

1994-1997 Post Lauream School in Medical Genetics Fellow (University of Milan)

TECHNOLOGY TRANSFER

PATENTS

1998 – Inventor with Dr. L. Corrado of “A simple method to generate Locus–Specific probes for
FISH analysis”. Patent n°. 0001302260, Milano 24/09/98

2005 – Inventor of a “Scientific didactic Instrument – Simulation of in Situ Hybridization”. Patent n°. 0001365451, Milano 20/04/05

CREATION OF NEW COMPANIES

2012 - Partner of a technological district coordinated by the “Consorzio Italbiotec” selected
following a competition, to establish National cluster according to the DGR IX/2892/2011
IX/3084/2012 in the field Biotechnology – Green Chemistry.

2013 – Partner of a Temporary Network of Company aimed at providing the Istituto Nazionale dei
Tumori (Milano) a certified DNA sequencing diagnostic service.

2015 – 2016 Partner of a Temporary Network of Company aimed at providing the Hospital of
Crema a certified oncological FISH diagnostic service.

2016 – 2018 Coordinator of a Temporary Network of Company aimed at providing the Hospital of
Crema the certified DNA sequencing and oncological FISH diagnostic services.

INSTITUTIONAL ACTIVITY – University of Milan

2014 to date President of the Joint Committee consisting of students and teachers of the MSc Medical Biotechnology and Molecular Medicine, MSc Medicine and BSc Medical Biotechnology
2012 - January 2018 Responsible of the Biology and Genetics section of the Department of Medical Biotechnology and Translational Medicine
2012-2015 Member of the Academic Disciplinary Board
2010 – 2012 Member of the Medical Faculty programming board
2008 – 2012 Director of the Department of Biology and Genetics for Medical
2006-2012 member of the Academic Scientific Research and Technological Transfer board for the Biological Area
2004 - 2012 member of the Academic Committee for the Evaluation of Teaching

YOUNG RESEARCHERS' FORMATION

Tutor of six PhD students and supervisor of five post-doctoral fellows

SCIENTIFIC ACTIVITY

PUBLICATIONS:

- in peer-reviewed international journals: 64
- book chapters: 13
- International/national talks as invited speaker: 24

TECHNOLOGICAL EXPERTISE

The research activity of P. Riva Research group deals with the human molecular genetics field by applying molecular genetic approaches to genome structure studies, DNA, RNA and protein analysis in both genetic diseases and cancer. More precisely the following skills were acquired and applied in different research fields:

- Cell culture techniques and Somatic cell genetics by means of conventional and high resolution FISH on metaphase, nuclei, stretched chromosomes and DNA fiber
- Molecular genetics: Sanger sequencing and NGS, DNA analysis by Southern blotting and Pulse Field Gel electrophoresis hybridization, PCR analysis, cloning of genomic and cDNA, cDNA selection approach, mutation screening techniques (SSCP and Heteroduplex analysis, Protein truncation test), DHPLC, direct sequencing; RNA analysis by Northern blotting, dot blotting, RT-PCR and RealTime-PCR; protein analysis by Western blotting, immunoprecipitation.
- Recombinant DNA: cloning of genomic DNA, and cDNA in plasmidic vectors, cloning of cis regulatory elements in reporter gene vector, generation of FISH locus-specific probes by single strand PCR (patented procedure), construction of YAC, PAC and BAC contiguous (tools for cloning of candidate gene), cDNA selection (applied to candidate-positional gene approach)
- Functional genetics: functional studies of post-transcriptional regulatory elements by transfection of recombinant reporter genes and luciferase assays; transfection of small RNAs (siRNAs and miRNAs) and their biological validation; down-regulation/overexpression of specific genes in danio rerio (zebrafish) animal model, by means of morpholino/expression- constructs injection. DNA, mRNA and protein analysis by bioinformatics tools.

Genetics of human diseases

- Noonan Syndrome: identification of new pathogenetic genes and variants of modifier genes
- Genotype-phenotype correlation in neurofibromatosis type 1 (NF1) including spinal NF1 and NF1 microdeletion syndrome

Cancer Genetics

- Identification of specific genetic lesions and gene expression profiles targeting dermal and/or plexiform neurofibromas
- Identification of pathogenetic mutations in familial breast cancer, Lynch Syndrome and familial adenomatous polyposis

EDITORIAL ADVISORY BOARD

Membro dell'Editorial Panel di EC Neurology

AD HOC REVIEWER OF INTERNATIONAL SCIENTIFIC JOURNALS

European Journal of Human Genetics
Genes Chromosomes and Cancer
Carcinogenesis
Annals of Human Genetics
BMC Cancer
International Journal of Cancer
FEBS Letter, Clinical Genetics
BMC Clinical Pathology
Human Mutation
Circulation
PLoS ONE
Cellular and Molecular Neurobiology
European Journal of Endocrinology
Tumor Biology
International Journal of Genomics
Biochemistry and Biotechnology Research
Journal of Molecular Medicine
Scientific Reports

RESEARCH FUNDING/GRANTS

RESPONSIBLE OF THE FOLLOWING GRANTED PROJEC

1997-1999 Telethon Grant, Project n. E780 “COMPARATIVE GENOTYPE-PHENOTYPE STUDY IN DELETED NF1 PATIENTS”. Co-PIs Paola Riva e Lidia Larizza (80.000.000 Lire)

2008 PRIN Grant 2007 “REGOLAZIONE POST-TRASCRIZIONALE DEL GENE CDK5R1 E POSSIBILI IMPLICAZIONI PATOGENETICHE NEL RITARDO MENTALE E IN MALATTIE NEURODEGENERATIVE” – OU PI Paola Riva (43.470 Euro), Scientific Coordinator Angelo Nicolini

2010-2013 AIRC Grant (IG 10525) “STUDY OF CHORDOMA TUMORIGENESIS ADDRESSING PROGNOSTIC MARKERS AND PHARMACOLOGICAL TARGETS IDENTIFICATION”- PI Paola Riva (120.000 Euro)

2012 -2014 Italian Ministry of Health Grant, Project N. RF-INN-2008-1204836 –Rare Diseases “IMATINIB FOR THE TREATMENT OF PLEXIFORM NEUROFIBROMAS IN NF1 PATIENTS” – OU PI Paola Riva, Coordinator Marica Eoli (250.000 Euro)

2014-2015 Istituto Nazionale dei Tumori, Milano - Research contract after competition “IDENTIFICATION OF MUTATIONS IN GENES INVOLVED IN FAMILIAL TUMOR OF BREAST AND COLON”, OU PI (770.120,00 Euro)

2018 -2021 Italian Ministry of Health Grant, Project N. RF-2016-02361293 – “UNSOLVED CHALLENGES IN NEUROFIBROMATOSIS TYPE 1: THE SEARCH FOR NOVEL CLINICAL AND MOLECULAR PREDICTORS FOR SPINAL NEUROFIBROMATOSIS DIAGNOSIS AND MANAGEMENT” – OU PI Paola Riva, Coordinator Marica Eoli (427.032,375 Euro)

REVIEWER OF NATIONAL AND INTERNATIONAL PROJECTS

- 2002 Austrian Science Fund, granted by US National Science Fund/Research Councils of Great Britain
- 2009 e 2010 Academic grants from Seconda Università di Napoli - Italy
- 2010 AIDS project granted by Ministero della Salute - Italian Government
- 2013 FIRB granted by MIUR - Italian Government

- 2014 SIR granted by MIUR - Italian Government
- 2014 The Research Foundation - Flanders (FWO) – Belgium
- 2015 SIR granted by MIUR - Italian Government
- 2016 Scientific and Technological Cooperation, granted by the Israeli Ministry of Science, Technology and Space and by the Italian Ministry of Foreign Affairs and International Cooperation

SCIENTIFIC SOCIETIES

- European Society of Human Genetics, ESHG - <https://www.eshg.org/>
- Associazione Italiana Biologia e Genetica, AIBG - <http://aibg.it/home.php/>
- Società Italiana di Genetica Umana, SIGU - <http://www.sigu.net/>
- Orphan Disease Center – University of Pennsylvania - <http://www.med.upenn.edu/orphandisease/index.shtml>

CURRENT TEACHING ACTIVITY

MSc Medical Biotechnology and Molecular Medicine – course of Genetic and Molecular basis of Diseases – University of Milan

MSc Medicine – course of Biology and Genetics – University of Milan

BSc Exercise, Sport and Health Sciences – course of Biology – University of Milan

BSc Medical Biotechnology – course of Genetics – University of Milan

Professor of the PhD School in Molecular Genetics, Biotechnology and Experimental Medicine – University of Brescia

DIAGNOSTIC ACTIVITY

Responsible of the molecular-genetic lab providing a certified service for the National Health System. The diagnostic activity concerns the genetic analysis of inherited diseases (Noonan Syndrome, NF1 microdeletion Syndrome) and oncological disease (characterization of oncological markers in solid tumors; familial breast cancer, Lynch tumors and familial adenomatous polyposis). A service of genetic analysis for food intolerances is also provided.